

Discount Rate	PV of All PayGo	PV of PayGo Less Muni.	PV of PayGo (FP Entities only)										
-	\$ 26,941,871	\$ 23,742,887	\$ 23,742,887	\$ 21,667,925									
3.58%	26,941,871	23,742,887	23,742,887	21,667,925									
3.79%	26,169,125	23,064,775	23,064,775	21,045,936									
5.00%	22,312,170	19,678,840	19,678,840	17,941,774									
5.50%	20,970,529	18,500,482	18,500,482	16,862,142									
5.66%	20,567,779	18,146,682	18,146,682	16,538,059									
6.00%	19,751,373	17,429,412	17,429,412	15,881,143									
6.50%	18,640,779	16,453,459	16,453,459	14,987,561									
7.00%	17,626,625	15,562,025	15,562,025	14,171,638									
7.50%	16,698,361	14,745,877	14,745,877	13,424,860									
31.67%	3,800,000	3,373,004	3,373,004	3,053,804									
			3.58%	3.79%									
Fiscal year end	Paygo for all FP entities	Paygo for non fiscal entities	Total ERS paygo	Paygo for municipalities	Paygo net of municipalities at 3.58%	PV Factor at 3.79%	Total ERS paygo	Paygo net of municipalities	PV (3.58%) all paygo	PV (3.58%) paygo less municipalities	PV (3.58%) paygo (FP entities only)	PV (3.79%) all paygo	PV (3.79%) paygo less municipalities
6/30/2019	1,315,286,000	332,793,590	1,648,079,590	183,827,873	1,464,251,718	0.932069	1,648,080	1,464,252	1,536,124	1,364,784	1,225,938	1,529,914	1,359,267
6/30/2020	1,407,826,433	332,832,994	1,740,659,428	185,140,185	1,555,519,243	0.899854	1,740,659	1,555,519	1,566,340	1,399,741	1,266,839	1,556,852	1,391,262
6/30/2021	1,237,737,035	296,223,403	1,533,960,438	171,435,364	1,362,525,075	0.868753	1,533,960	1,362,525	1,332,633	1,183,698	1,075,288	1,321,880	1,174,147
6/30/2022	1,225,133,086	295,890,332	1,521,023,417	171,976,237	1,349,047,180	0.838727	1,521,023	1,349,047	1,275,723	1,131,482	1,027,552	1,262,869	1,120,081
6/30/2023	1,212,758,196	296,211,796	1,508,969,991	173,007,297	1,335,962,695	0.809738	1,508,970	1,335,963	1,221,870	1,081,780	982,016	1,207,112	1,068,713
6/30/2024	1,203,222,830	296,580,544	1,499,803,374	174,063,785	1,325,739,589	0.781751	1,499,803	1,325,740	1,172,473	1,036,399	940,621	1,155,968	1,021,809
6/30/2025	1,197,591,609	296,540,593	1,494,132,202	174,809,576	1,319,322,626	0.754732	1,494,132	1,319,323	1,127,669	995,735	903,861	1,109,545	979,731
6/30/2026	1,203,425,294	297,185,635	1,500,610,929	176,034,031	1,324,576,898	0.728646	1,500,611	1,324,577	1,093,415	965,148	876,872	1,073,664	947,715
6/30/2027	1,205,477,460	296,811,761	1,502,289,221	176,702,589	1,325,586,633	0.703462	1,502,289	1,325,587	1,056,804	932,500	848,008	1,035,615	913,804
6/30/2028	1,205,309,044	296,039,108	1,501,348,152	177,091,010	1,324,157,142	0.679149	1,501,248	1,324,157	1,019,571	899,300	818,516	997,107	879,486
6/30/2029	1,204,680,361	295,465,950	1,500,146,311	177,709,993	1,322,436,318	0.655676	1,500,146	1,322,436	983,610	867,089	789,880	959,992	846,269
6/30/2030	1,201,654,370	294,341,369	1,496,995,738	177,864,560	1,318,131,178	0.633014	1,495,996	1,318,131	946,986	834,395	760,664	922,378	812,713
6/30/2031	1,197,480,519	292,939,183	1,490,419,702	177,861,942	1,312,557,759	0.611135	1,490,420	1,312,558	910,848	802,150	731,823	885,383	779,725
6/30/2032	1,191,691,790	291,204,816	1,482,896,606	177,490,339	1,305,406,267	0.590013	1,482,897	1,305,406	874,928	770,206	703,113	848,747	747,159
6/30/2033	1,182,921,238	288,865,579	1,471,787,818	176,777,362	1,295,010,456	0.569622	1,471,788	1,295,010	838,360	737,664	673,816	811,628	714,143
6/30/2034	1,171,837,705	285,653,312	1,457,493,017	175,447,051	1,282,045,966	0.549933	1,457,493	1,282,046	801,523	705,039	644,432	774,395	681,177
6/30/2035	1,159,071,407	282,183,816	1,441,255,223	174,120,377	1,267,134,846	0.530926	1,441,255	1,267,135	765,199	672,754	615,381	737,805	648,670
6/30/2036	1,142,788,702	277,729,500	1,420,518,202	172,069,440	1,248,448,762	0.512575	1,420,518	1,248,449	728,123	639,924	585,765	700,635	615,766
6/30/2037	1,123,337,923	272,398,640	1,395,736,563	169,684,597	1,226,051,966	0.494859	1,395,737	1,226,052	690,693	606,723	555,894	663,274	582,638
6/30/2038	1,100,976,939	266,592,984	1,367,569,923	167,000,389	1,200,569,534	0.477756	1,367,570	1,200,570	653,364	573,579	525,998	626,158	549,695
6/30/2039	1,079,963,281	259,632,630	1,333,595,911	163,536,588	1,170,059,322	0.461243	1,333,596	1,170,059	615,112	539,682	495,358	588,306	516,163
6/30/2040	1,043,690,778	251,999,981	1,295,687,758	159,625,156	1,136,062,603	0.445301	1,295,688	1,136,063	576,972	505,890	464,757	550,711	482,865
6/30/2041	1,011,255,076	243,859,381	1,255,114,457	155,300,935	1,099,813,522	0.429911	1,255,114	1,099,814	539,587	472,822	434,749	513,986	450,388
6/30/2042	975,654,954	234,923,464	1,210,578,419	150,320,687	1,060,257,731	0.415052	1,210,578	1,060,258	502,453	440,062	404,947	477,645	418,334
6/30/2043	937,841,545	225,676,430	1,163,517,975	145,086,536	1,018,431,439	0.400707	1,163,518	1,018,431	466,229	408,092	375,799	442,313	387,158
6/30/2044	899,034,935	216,419,175	1,115,454,110	139,787,271	975,666,838	0.386857	1,115,454	975,667	431,521	377,444	347,798	408,557	357,257
6/30/2045	858,138,207	206,544,474	1,064,682,681	133,996,095	930,686,586	0.373486	1,064,683	930,687	397,644	347,599	320,503	375,721	328,435
6/30/2046	816,813,708	196,649,221	1,013,462,929	128,233,369	885,229,559	0.360578	1,013,463	885,230	365,432	319,194	294,525	344,586	300,986
6/30/2047	775,046,926	186,679,892	961,717,818	122,360,559	839,357,258	0.348115	961,718	839,357	334,788	292,193	269,805	315,052	274,968
6/30/2048	733,333,610	176,512,670	909,846,280	116,396,356	793,449,924	0.336083	909,846	793,450	305,784	266,665	246,461	287,175	250,437
6/30/2049	690,831,940	166,207,116	857,039,056	110,236,460	746,802,596	0.324467	857,039	746,803	278,081	242,313	224,152	260,630	227,106
6/30/2050	649,202,176	156,262,754	805,464,931	104,290,781	701,174,150	0.313253	805,465	701,174	252,314	219,645	203,364	236,001	205,444
6/30/2051	607,454,923	146,227,065	753,681,988	98,257,890	655,424,098	0.302426	753,682	655,424	227,933	198,217	183,710	212,765	185,027
6/30/2052	566,714,137	135,838,480	702,552,617	91,747,255	610,805,362	0.291973	702,553	610,805	205,127	178,339	165,465	191,089	166,135
6/30/2053	527,663,013	126,190,267	653,853,280	85,776,326	568,076,954	0.281882	653,853	568,077	184,309	160,131	148,739	171,349	148,871
6/30/2054	489,528,631	116,722,956	606,251,587	79,858,067	526,393,520	0.272139	606,252	526,394	164,985	143,252	133,220	153,073	132,910
6/30/2055	452,820,996	107,605,845	560,426,842	74,112,813	486,314,029	0.262734	560,427	486,314	147,243	127,771	118,971	136,336	118,306
6/30/2056	417,787,104	98,915,158	516,702,262	68,572,353	448,129,909	0.253653	516,702	448,130	131,063	113,669	105,973	121,109	105,036
6/30/2057	384,179,103	90,503,336	474,682,439	63,212,246	411,470,193	0.244886	474,682	411,470	116,243	100,763	94,080	107,197	92,922
6/30/2058	352,216,806	82,576,210	434,793,016	58,120,052	376,672,963	0.236422	434,793	376,673	102,795	89,054	83,272	94,603	81,957
Total	\$ 38,353,279,790	\$ 9,310,422,409	\$ 47,663,702,199	\$ 5,758,941,792	\$ 41,904,760,407		\$ 47,663,701	\$ 41,904,763	\$ 26,941,871	\$ 23,742,887	\$ 21,667,925	\$ 26,169,125	\$ 23,064,775
									26,941,875	23,742,889	21,667,927	26,169,128	23,064,773

5.66% \$11,777,365.00

**Exhibit A: Net Present Value of PayGo Fees at Various Discount Rates**

	Total ERS PayGo Fees	ERS PayGo Fees excluding Municipalities	ERS PayGo Fees excluding Non-Fiscal Plan Entities
<b>(\$ in Billions)</b>			
<b>Nominal (FY19 - FY58)</b>	<b>\$47.7</b>	<b>\$41.9</b>	<b>\$38.4</b>
3.58%	26.9	23.7	21.7
3.79%	26.2	23.1	21.0
5.00%	22.3	19.7	17.9
5.50%	21.0	18.5	16.9
5.66%	20.6	18.1	16.5
6.00%	19.8	17.4	15.9
6.50%	18.6	16.5	15.0
7.00%	17.6	15.6	14.2
7.50%	16.7	14.7	13.4
31.67%	3.8	3.4	3.1

**Notes and Sources:**

<sup>(1)</sup> NPV calculations discounted back to FY2017 assuming payments made at fiscal year-end; originally presented in the declaration of Guarav Malhotra.

- Underlying PayGo data and certain discount rates from MALHOTRA000179

**Exhibit 2**

Date <sup>(1)</sup>	Debt Service Cash Flows on New Bonds (\$ in '000s)	Discount Factor (5.66% Discount Rate)	Net Present Value (\$ in '000s)
7/1/2020	\$1,034,646	0.97642	\$1,010,251
7/1/2021	1,017,174	0.92415	940,021
7/1/2022	998,987	0.87468	873,790
7/1/2023	980,088	0.82785	811,366
7/1/2024	960,424	0.78353	752,523
7/1/2025	939,976	0.74159	697,073
7/1/2026	918,708	0.70189	644,828
7/1/2027	896,593	0.66431	595,616
7/1/2028	873,587	0.62875	549,265
7/1/2029	849,664	0.59509	505,625
7/1/2030	824,792	0.56323	464,548
7/1/2031	798,909	0.53308	425,881
7/1/2032	772,004	0.50454	389,507
7/1/2033	744,022	0.47753	355,292
7/1/2034	714,913	0.45197	323,116
7/1/2035	684,645	0.42777	292,870
7/1/2036	653,162	0.40487	264,445
7/1/2037	620,421	0.38319	237,742
7/1/2038	586,380	0.36268	212,669
7/1/2039	550,966	0.34326	189,127
7/1/2040	514,136	0.32489	167,037
7/1/2041	479,122	0.30750	147,328
7/1/2042	479,112	0.29103	139,438
7/1/2043	479,120	0.27545	131,975
7/1/2044	479,120	0.26071	124,910
7/1/2045	479,118	0.24675	118,223
7/1/2046	479,122	0.23354	111,895
7/1/2047	479,116	0.22104	105,903
7/1/2048	479,115	0.20921	100,233
7/1/2049	479,120	0.19801	94,868
<b>Total</b>	<b>\$21,246,262</b>		<b>\$11,777,365</b>

**Notes and Sources:**

<sup>(1)</sup> Assumed deemed issuance date of February 29, 2020 with amortizations due on July 1 of each fiscal year  
- Debt service figures based on Exhibit A of the Term Sheet in the GO/PBA Bondholders PSA dated May 31, 2019